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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,318	10/29/2001	J.J. Garcia-Luna-Aceves	UC2000-353-2	1118
8156	7590	04/05/2005	EXAMINER	
JOHN P. O'BANION			BHANDARI, PUNEET	
O'BANION & RITCHEY LLP			ART UNIT	
400 CAPITOL MALL SUITE 1550			PAPER NUMBER	
SACRAMENTO, CA 95814			2666	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/021,318	GARCIA-LUNA-ACEVES ET AL.	
	Examiner	Art Unit	
	Puneet Bhandari	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 52-86 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 75-86 is/are allowed.
- 6) ☒ Claim(s) 52, 53, 55-58, 60, 61, 63-65, 67-69 and 71-73 is/are rejected.
- 7) ☒ Claim(s) 54, 59, 62, 66, 70, 74 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>04/25/2002</u> . | 6) <input type="checkbox"/> Other: _____ |

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Omum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claim **52** provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 51 of copending Application No. 09/945106. Although the conflicting claims are not identical, they are not patentably distinct from each other because of following correspondences.

Regarding claim **52**, a method of improving congestion control of data packet transmitted over a communication network employing transmission control protocol (TCP), said packets transmitted from source to a destination corresponds to "*method for improving TCP performance over a wireless connection*" of claim 51 of copending application. Detecting an initial stage of congestion corresponds to "detecting the initial stages of congestion in the connection" of claim 51 of copending application. Determining the direction of said congestion corresponds to "*identifying the direction of the congestion*" of claim 51 of copending application. Estimating the relative delay that one data packet experiences with respect to another data packet as said data packets

transmitted over network corresponds to *"calculating the relative delay that one packet experiences with respect to another as it traverses the network"* of claim 51 of copending application.

Claim 52 differ from of claim 51 of copending application for following reasons. Claim 52 do not claim *"isolating the forward throughput from the events such as congestion that may occur on the reverse path, using the relative delay to estimate the number of packets residing in bottleneck queue, keeping the number of packets in the bottle neck queue at a minimum level by adjusting the TCP sources congestion window"*. Therefore claim 52 merely broaden the scope of claim 51 of the copending application.

It has been held that the omission of an element and its function is an obvious expedient if the remaining elements perform the same function as before. See *In re Karlosn*, 136 USPQ 184 (CCPA). Also not *Ex parte Rainu*, 168 USPQ 375 (Bd. App. 1969). The omission of reference element whose function is not needed would have been obvious to one skilled in art.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Objections

3. Claims 53, 61 & 69 objected to because of the following informalities: the use word "may" on line 3, in claim 53 & 61, on line 9, in claim 61 does not recite a positive limitation. Appropriate correction is required.

Claim Rejections - 35 USC § 102

Art Unit: 2666

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims **52,53,55-58,61,63-65, 68, 71-73** are rejected under 35 U.S.C. 102(e) as being anticipated by DiNicola et al (US 6,700,876).

Regarding claim **52**, a method of improving congestion control of data packet transmitted over a communication network employing transmission control protocol (TCP) is anticipated by *“round trip time is used to estimate the network congestion”* disclosed in column 4, lines 27-35, said packet transmitted from a source to a destination is anticipated by *“packet send between sending and receiving processor”* disclosed in column 4, lines 27-32, said method comprising:

Detecting an initial stage of congestion is anticipated by *“round trip time is indicative of congestion”* disclosed in column 4, lines 33-43; and

Determining the direction of said congestion is anticipated by *“path to a particular destination is congested or not”* disclosed in column 5, lines 20-30; by estimating the relative delay that one data packet experiences with respect to another data packet as said data packet are transmitted over said network is anticipated by *“determination weather the round trip time is less than the expected round trip time”* column 6, lines 54-57.

Regarding claims **53, 61 & 69**: determining whether congestion is developing in forward path is anticipated by *“path to a particular destination is congested or not”* disclosed in column 5, lines 20-30; and isolating forward throughput from congestion that may occur on reverse path is anticipated by *“if the state is congested, the round trip time are determined and the widow size is varied”* column 5, lines 25-35.

Regarding claims **55, 63 & 68**, wherein said relative delay comprises increases and decreases in delay that said data packet experience with respect to each other is anticipated by *“comparing the determined round trip time with a known degree of network congestion”* disclosed in column 2, lines 9-13; further comprising calculating said relative delay from a timestamp returned by a receiver of a data packet in an acknowledgement packet is anticipated by *“determining the round trip time which is indicative of network congestion”* column 2, lines 1-13; said timestamp specifying arrival time of the data packet at the receiver *“recording a second time stamp with a receipt of acknowledgement from the receiver”* column 2, lines 1-10

Regarding claims **56,64 & 71**, further comprising determining the presence of multiple paths to a destination by time stamps returned from receiver of said data packet is anticipated by *“time stamp for every packet when the network is congested”* column 6, lines 30-35.

Regarding claims **57, 65 & 72**, further determining whether congestion is increasing or decreasing in either a forward or reverse path is anticipated by *“comparison between roundtrip time is less than the expected roundtrip time is indicative network congestion”* column 2, lines 9-13.

Regarding claims **58 & 73**, wherein determination of congestion direction allows that portion of forward path to be isolated from the events or congestion may occur on the reverse path is anticipated by "*sender is blocked from sending the packet to particular destination*" disclosed in column 6, lines 26-35.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims **60,67** is rejected under 35 U.S.C. 103(a) as being unpatentable over DiNicola et al (US 6,700,876) in view of Li et al (US 6,741,555).

Regarding claims **60,67** DiNicola et al (US 6,700,876) teaches all the limitations of claim 60,67 (see 102 rejection for claim 52 and 61 above) except DiNicola et al (US 6,700,876) does not expressly disclose TCP having a optional field and further comprising using said options field to detect the initial stage of congestion and direction of congestion. Li et al (US 6,741,555) discloses TCP packet with a congestion notification (see column 7, line 36-56). At the time the invention was made it would have been obvious to a person in ordinary skill in art to add the TCP with an option filed to detect congestion and determine the direction of congestion as illustrated by Li et al (US 6,741,555) to a method of DiNicola et al (US 6,700,876) for improving congestion control of data packet transmitted over a communication network employing transmission control protocol (TCP). One in ordinary skill in art would have been

motivated to do this to provide an congestion avoidance mechanism for packet switched networks (see column 1, lines 8-11 of Li et al (US 6,741,555)).

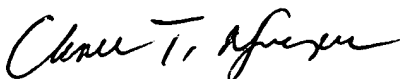
Allowable Subject Matter

8. Claims **75-86** are allowed.
9. Claims **54,59,62,66,70 & 74** objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Puneet Bhandari whose telephone number is 571-272-2057. The examiner can normally be reached on 9.00 AM To 5.30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 2666

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